AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Presently Amended) A microfluidic device comprising:

a pump unit including:

a first joint surface; ~~surface,~~

a pumping mechanism; and

a channel that forms a flow path through which a fluid flows, opposing ends of said channel each ~~connects to the pumping mechanism and opens~~ opening to the first joint surface, said pumping mechanism being disposed adjacent to said channel and being configured to control a flow of fluid through said channel; and

a channel unit including a second joint surface for being detachably joined to the first joint surface and a channel that opens to the second joint surface and is connectable to one end of the channel of the pump unit,

wherein at least one of a material constituting the first joint surface and a material constituting the second joint surface is an elastic material having a self-sealing feature.

2. (Original) The microfluidic device according to claim 1, wherein the elastic material having a self-sealing feature is a PDMS.

3. (Original) The microfluidic device according to claim 1, wherein the elastic material having a self-sealing feature has translucency.

4. (Presently Amended) The microfluidic device according to claim 1, further comprising a member for positioning ~~between~~ the pump unit and the channel unit with respect to each other.

5. (Original) The microfluidic device according to claim 1, wherein the pump unit is structured by a pump portion including the pumping mechanism, and a sheet-like member that connects to the pumping mechanism and opens to the first joint surface.

6. (Original) A microfluidic device comprising:

a pump unit including:

a first joint surface; ~~surface,~~

a pumping mechanism; and

a first channel that forms a flow path through which a fluid flows, opposing ends of said first channel each ~~connects to the pumping mechanism and opens~~ opening to the first joint surface, said pumping mechanism being disposed adjacent to said channel and being configured to control a flow of fluid through said channel;

a channel unit including a second joint surface and a second channel opening to the second joint surface; and

a sheet-like member including a third joint surface to be bonded to the first joint surface, a fourth joint surface to be bonded to the second joint surface and a connection hole for connecting the first channel and the second channel,

wherein the sheet-like member is made from an elastic material having a self-sealing feature and is detachably joined to at least one of the channel unit and the pump unit.

7. (Original) The microfluidic device according to claim 6, wherein the elastic material having a self-sealing feature is a PDMS.

8. (Original) The microfluidic device according to claim 6, wherein the elastic material having a self-sealing feature has translucency.

9. (Presently Amended) The microfluidic device according to claim 6, further comprising a member for positioning ~~between~~ the ~~pump unit~~ sheet-like member and the channel unit with respect to each other.

10. (Presently Amended) A pump unit used for a microfluidic device including the pump unit and a channel unit that has a joint surface and a channel opening to the joint surface, the pump unit comprising:

a first joint surface for being detachably joined to the joint surface of the channel unit;

a pumping mechanism; and

a channel that forms a flow path through which a fluid flows, opposing ends of said channel each ~~connects to the pumping mechanism, opens~~ opening to the first joint surface, said pumping mechanism being disposed adjacent to said channel and being configured to control a flow of fluid through said channel, one end of said channel being [[and is]] connectable to the channel of the channel unit,

wherein a material constituting the first joint surface is an elastic material having a self-sealing feature.

11. (Original) The pump unit according to claim 10, wherein the elastic material having a self-sealing feature is a PDMS.

12. (Original) The pump unit according to claim 10, wherein the elastic material having a self-sealing feature has translucency.

13. (Presently Amended) The pump unit according to claim 10, further comprising a member for positioning ~~between~~ the pump unit and the channel unit with respect to each other.

14. (Original) The pump unit according to claim 10, further comprising a pump portion including the pumping mechanism, and a sheet-like member including a channel that connects to the pumping mechanism and opens to the first joint surface.

15. (Presently Amended) A channel unit used for a microfluidic device including the channel unit and a pump unit, the pump unit being the type that has a first joint surface, ~~that has~~ a pumping mechanism, ~~a joint surface~~ and a channel that forms a flow path through

which a fluid flows, opposing ends of said channel each opening to the first joint surface, the channel unit comprising:

a second joint surface for being detachably joined to the joint surface of the pump unit; and

a channel that opens to the second joint surface and is connectable to the channel of the pump unit,

wherein a material constituting the second joint surface is an elastic material having a self-sealing feature.

16. (Original) The channel unit according to claim 15, wherein the elastic material having a self-sealing feature is a PDMS.

17. (Original) The channel unit according to claim 15, wherein the elastic material having a self-sealing feature has translucency.

18. (Presently Amended) The channel unit according to claim 15, further comprising a member for positioning ~~between~~ the pump unit and the channel unit with respect to each other.

19. (New) A microfluidic device in accordance with claim 1, wherein said channel unit includes a fluid reservoir that opens to the second joint surface and is connectable to a second end of the channel of the pump unit.